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How to train in archery

Maurice Thompson, Will H. Thompson

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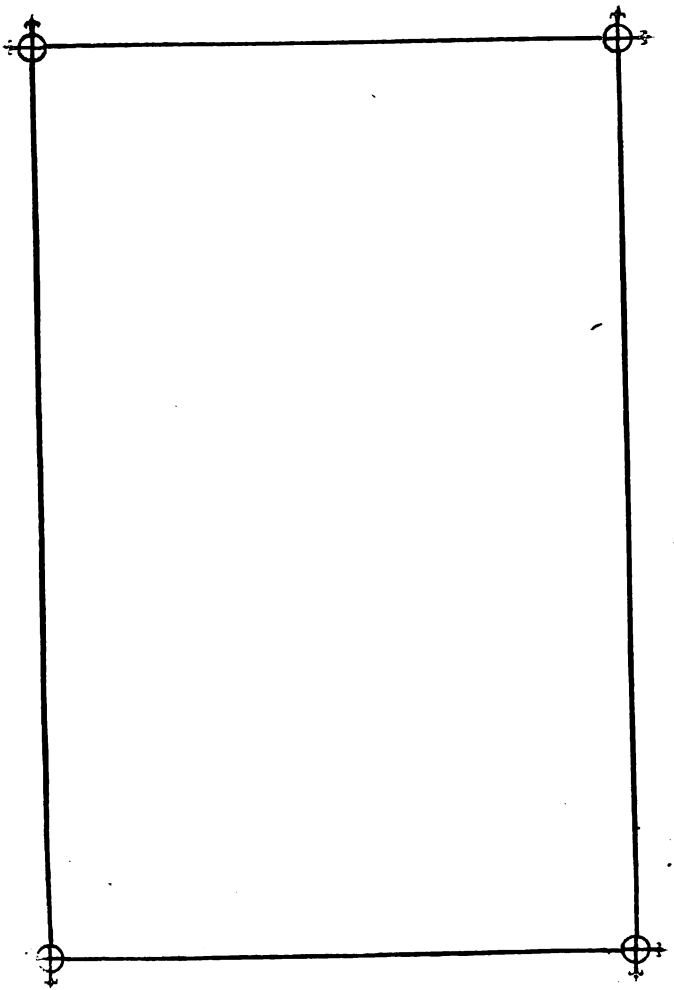

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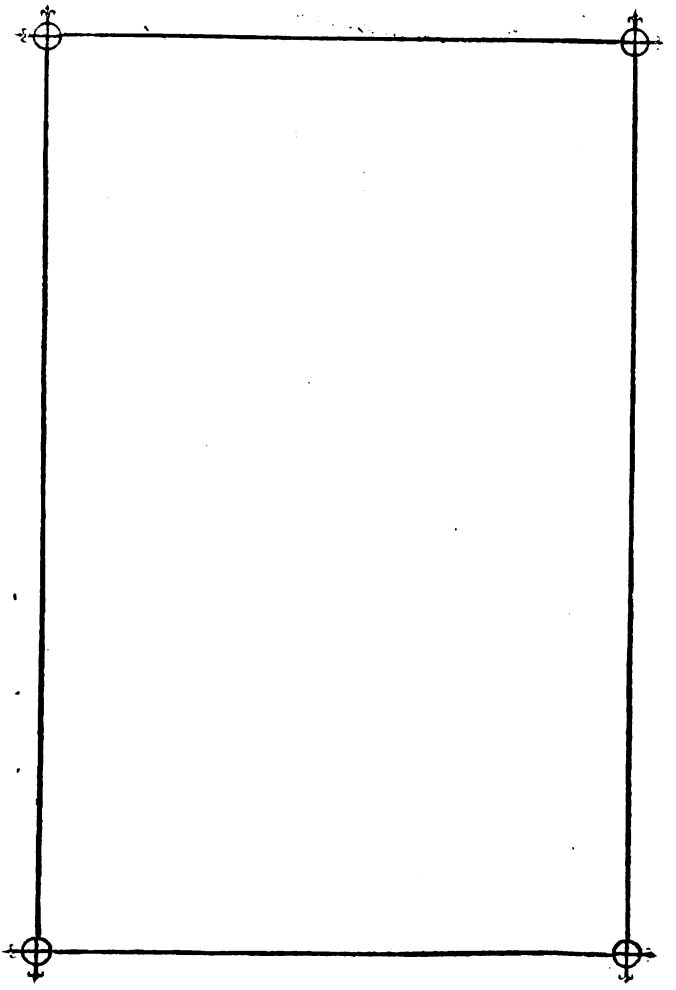

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How to Train in Archery.

BEING A COMPLETE STUDY OF THE YORK ROUND.

COMPRISING

An Exhaustive Manual of Long-Range Bow Shooting for the use of those Archers who wish to become Contestants at the

Grand National Association Meetings.

BY

MAURICE THOMPSON,
President of the Grand National Archery Association of the United States, Author of the "WITCHERY OF ARCHERY," etc., etc., and

WILL H. THOMPSON,
Master of the "Wabash Merry Bowmen."

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CHAPTER I.

Prefatory Remarks.

THE difference between the proper method of shooting at short, that is, *point blanc* range, and that of shooting at the great distances used in the York Round, is radical. One may be a crack shot at forty yards and under, and yet find himself unable to hit the target once out of twenty shots at one hundred or even eighty yards. To the close observer the reason of this is plain.

First, in practicing at the *short* range the archer naturally draws higher, with his right hand near his ear, whilst at the long range he lowers that hand to the level of his chin, or rather below, and elevates his left so as to give the arrow the proper pitch for the high flight necessary to make it reach the target.

Secondly, short range shooting gives a line of sight directly along the whole length of the arrow, whilst long range shooting, if the archer

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keeps a graceful position, compels a line of sight, or aim, forming an acute angle with the direction of the shaft. This gives rise to the one great difficulty in the longest range of the York Round, viz: keeping a length, or keeping the proper elevation to each shot. The archer will find that long after he has "mastered the line" so that at almost every loose he casts his arrow in the vertical plane of the target's centre, he will rarely hit the mark, his shafts all falling short or flying far over the top of the target. This is not the case in *point blanc* shooting, where most of his shots will be either in the gold or on a horizontal plane with it, the difficulty being in keeping a line and not in keeping the proper elevation.

Thirdly, the *point blanc* range is very little affected by the weather, the allowance for drift being extremely slight. The long ranges, on the contrary necessitate particular attention to the wind. The closest study of all these points is of the highest importance to the archer training in the York Round with a view to shooting at the Grand National Association meetings, as

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the slightest departure from the strictest form of "standing," "nocking," "aiming," "allowing for drift" and "loosing" will be sure to materially lessen his score.

In the following chapters we have adopted no man's theory, as a theory. We have studied the York Round on the range with bow in hand, making our notes of results from practical experience. The methods we describe and recommend are those we have found to stand the test of repeated careful trial under the conditions of out-door shooting. Many of them have been practiced by the best archers of England, while some are our own discoveries.

We do not treat of the general theory and practice of archery in this work, nor do we even touch upon hunting game with the bow and arrows. For a complete "school of archery" in everything excepting practice for the "Grand National Meetings," the archer and general reader is referred to "The Witchery of Archery," by Maurice Thompson, published by Charles Scribner's Sons, 743 Broadway, New York.

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The following pages are for the advanced bowman and bow-woman who, feeling their power, are making ready for the highest achievements in the most difficult field of archery, the York Round and the Columbia and National Rounds.

Whatever is directed in this work to be done in shooting the York Round is applicable also to the Columbia and National Rounds for ladies. The practice is identical, the difference in the distances to be shot having no effect on the method, since ladies use much lighter weapons than gentlemen do.

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CHAPTER II.

Historical Sketch of the York Round.

THE practice of archery as a pastime has at no time since 1673 been extinct in Great Britain, but with the exception of The Society of Richmond Archers, (Yorkshire) in England, and "The Royal Edinburg Bowmen" in Scotland, no organization, of toxophilites exists whose history dates back to the seventeenth century.

In the year 1843 archery was greatly revived throughout the United Kingdom, and in that year Mr. William Gray, then secretary of the Thirsk Bowmen, began a correspondence with several of the most prominent archers of the different societies then existing, for the purpose of establishing an annual competition by all the archers of the kingdom at a grand National Meeting. Being faithfully seconded and assisted by Mr Henry Peckitt of Carlton Husthwaite, and the Rev. J. Higginson, the

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effort resulted in the establishment of the Grand National Meeting, the first of which was held in 1844 at York, and the last in 1878, at Tunbridge Wells.

In preparing the regulations to govern the shooting at these National Meetings, much consideration and discussion was given to the question as to the proper "Round" to be shot. The "York Round," consisting of seventy-two arrows at 100 yards, forty-eight arrows at 80 yards, and twenty-four arrows at 60 yards, was finally adopted, and the wisdom of the choice of the number of arrows and the division has been so fully proved in practice that all public matches shot in Great Britain by gentlemen are decided upon the result of either a single or double York Round.

In 1854 a second great meeting of archers to be annually held at Leamington was established under the title of the "Leamington and Midland Counties Meeting" and the York Round was adopted as the round upon which prizes should be awarded.

In 1859 the "Crystal Palace" meeting was

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established upon a similar plan, and the York Round adopted. Finally, in 1861 a fourth great annual meeting of archers was organized under the title of the "Grand Western Meeting." This meeting also accepted the York Round as being the best possible arrangement of distance and number of shots.

Each of these four great annual meetings lasts through two days, and the York Round being shot upon each day, the prizes are awarded to the winners of the greatest number of points in the double York Round. Despite the adversities of weather, these meetings have been held without failure since their establishment, with one exception, in the case of the Grand Western in the years 1865 and 1867.

That the proportionate number of arrows allotted to each distance in the York Round is correct, there can now be little doubt.

Since the first Grand National Meeting in 1844, many attempts have been made to either lessen the number of arrows shot at the longer ranges, or abolish the one hundred yards range altogether. The more experienced archers have

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always met these attempts with such convincing arguments that the York has been preserved in its integrity as the one round at which all public matches are shot.

The last controversy upon the subject was begun in the London Field in the year 1873, by a long letter from Mr. Thomas Francis Rolt, of Stow-on-the-Wold, who advanced many ingenious arguments to prove that one hundred yards was too great a range for accuracy, and favoring the curtailment, at least, of that range. This letter provoked replies from all the leading archers of Great Britain : among them Edwards, Moore, Walford, Walrond, Palairet, Foster and Ward. So unanswerable were the arguments advanced by these veteran archers, that Mr. Rolt in a subsequent letter said that "it would be absurd to wish for a change, had one even the power to make it"

The division of the York Round is such that an archer of medium skill will usually obtain about the same gross score at each of the three distances. Thus an archer who scores 500 points at the Double York, will get about 160

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points at each range. The archer who is less proficient will obtain his greatest number at 60 yards, while the expert will secure his larger score at 80 and 100 yards.

A beautiful feature of this combination of distances is the opportunity it gives to the archer who deems himself a good shot at one particular distance, to distinguish himself, and perhaps bear off the most desirable prize at his favorite range, while he would have no hope of accomplishing such a feat at the combined ranges. Thus one archer will attend the National Meeting because he is a good shot at 60 yards, and will be satisfied with having achieved distinction at that range; while another will prefer the longer ranges, and will win his honors at 100 yards.

The adoption of the York Round by the National Archery Association of the United States as one of the rounds upon which inter-club competitions by societies belonging to the Association will be shot, and declaring by the constitution that the Championship Medal shall be awarded to the archer making the greatest score at the Double York Round, at the

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National Meeting each year, will doubtless have great influence in causing the archers of America to do most of their practice shooting at the ranges of the York Round. Many will at first object to the long range shooting, but with practice it will grow in favor with all, and in a few years will be as firmly fixed in our esteem as it has been in that of the English people.

The Columbia Round.

The "National Round" shot by the ladies of Great Britain at all public meetings, consists of 48 arrows at 60 yards, and 24 arrows at 50 yards. Generally the prizes are awarded upon the result of a Double National Round.

In America the practice of archery has been of such short history that no round has yet become an accepted standard, and the National Archery Association had much difficulty in the selection of the ranges and number of arrows to be shot in the competition for the Championess Medal.

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The ranges shot by the English ladies, most of whom have had years of practice, were found to be too long for practice by our ladies at present, and after much discussion the "Columbia Round" was adopted as the best possible arrangement that could yet be made, though there can be little doubt that in the course of two or three years when our ladies have attained to greater proficiency, longer ranges will be required.

The Columbia Round consists of 24 arrows at 30 yards, 24 arrows at 40 yards, and 24 arrows at 50 yards.

These distances are well suited to the present state of skill and practice among our ladies, and the ranges and division of arrows will be in great favor for the first year or two. It will be then time to consider the matter of extending the ranges.

In this little work it would be useless to give special directions as to the proper manner of shooting at the ranges of the Columbia Round, as all directions given for the York Round apply equally well to the Columbia.

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The prizes at the National Meetings will be awarded to the best scores upon the Double Columbia Round, to be shot through three days. We shall expect to see some fine scoring by our ladies at the ranges of the Columbia, for "you must remember, good my host, that weapons are wielded not by strength, but by art and sleight of hand."

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CHAPTER III.

Position.

WHILE it is true that a considerable degree of skill may be acquired at short range by constant practice, even with a false position, yet for success at the long ranges it is absolutely essential that the archer should keep the one position which gives the greatest command of the bow. After many years of experimenting all the best shots have reached the same conclusion as to the standing which the archer should take, and the style of the proper draw and loose.

Upon the following rules all agree :

First, the feet should be placed flat upon the ground with the weight resting equally upon both. The heels should be about six inches apart, with the toes turned outward at an angle of ninety degrees. The left side should be opposed to the target, so that the toe of the *left* foot would point forty-five degrees to the *right*

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of the target. The face should be turned over the left shoulder squarely fronting the mark. This position may seem at first to be somewhat awkward, but it is soon acquired, and gives greater control of the bow than any other.

Having taken his standing, the next thing addressing itself to the archers care, is to properly nock his arrow.

The proper point on the string to place the arrow is exactly opposite the first wood of the upper limb of the bow appearing above the plush handle. This point upon the string should always bear a mark to distinguish it, so that the point can at once be found.

To nock the arrow, take the bow by the handle with the left hand, holding it horizontally across the body, with the upper limb to the right. With the right hand draw the arrow from the quiver, pass it across the bow until the steel pile projects ten inches beyond the handle, when the left forefinger should be placed over the arrow to hold it to its place, while the right hand is changed to the nock; with the thumb and first finger of the right hand grasping the

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nock, slide the arrow forward until the nock reaches the string, when the arrow should be turned until the cock-feather comes uppermost, and the nock placed upon the string The left fore finger should now be lifted from the arrow, which will rest between the bow and the knuckle of the first finger.

The next operation in order is the drawing of the string. In order to secure regular hitting at long range it is necessary that the string should be drawn exactly alike at each shot. Not only should the string be brought back the same distance every time, but in precisely the same manner and in exactly the same time. How necessary it is that there should be no variation in the delivery of two shots will be easily understood when it is remembered that though everything else be done perfectly, yet the variation of one-fifth of an inch in the aiming of an arrow at one hundred yards carries it entirely off the target; or in other words, if an arrow is properly aimed to ensure it to strike exactly in the center of the gold of a four feet target at one hundred yards, a change of one-

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fifth of an inch either to left or right will cause it to miss the whole target.

The same rule applies to the distance the string must be drawn each time, as will be fully explained in the chapters on "Keeping a line" and "Keeping a length"

To draw steadily and truly, the left hand grasping the handle of the bow firmly should be raised to the level of the shoulder, the string being at the same time partially drawn back by the three first fingers of the right hand. These three fingers draw the string by being hooked around it as nearly at their extreme tips as the shooter can control the string, the arrow being held between the first and second fingers. When the bow has reached the level of the shoulder it should be held in a position nearly perpendicular, the upper limb being turned slightly to the right.

The position of the target should now be well fixed in the vision, and the necessary elevation to reach it determined. Then the left arm should be held fully extended and firm as a wooden beam; the right should draw the string back,

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not by the power of the fingers alone, but by the whole strength of the right shoulder and arm. The utmost care and great practice should be given to acquiring the correct draw.

When the arrow is fully drawn up to the steel pile, as every arrow must be, the arrow and the whole of the right arm from the elbow to the arrow nock, must be exactly on a line. Unless this is secured no regular shooting at long range can ever be obtained. It is easily seen why this is true, for if the right elbow were lower than the line of the arrow, the muscles would be on a strain and the loosing of the string irregular and unsteady.

When the arrow is thus fully drawn up it should at once be loosed, and this is the most delicate and difficult operation of archery, and almost as hard to describe as to learn. The loose is simply the act of allowing the string to slip off the finger tips, and is accomplished by partially straightening the last joint of the fingers while they are slipped off, and *backward* from the string. Merely to straighten the fingers and let the string go free, will give a clumsy,

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sluggish loose, but the fingers should be brought smoothly backward and be *pulled off the string* by the force of the draw. This will give a clean sharp loose, and by careful practice one can become so perfect in it, that his arrows will go with great power and beauty, from even a very light bow.

Much difference will be seen in the elevation required for different archers to reach the target with bows of the same weight. The reason is to be found in the loose. Many archers complain of the great elevation necessary in shooting at the 100 yard range, with bows of 55 to 60 pounds weight, while the expert whose touch is fine and loose perfect, will send his arrows through with a low and steady flight, perfectly commanding the range with a 48 pound bow.

The utmost care is necessary in drawing, that the string is brought *straight back* from the center of the bow. Grasping the handle firmly, as the shooter must, it is not easy to perceive by the feeling whether the string is being drawn back in a true line or not. One can judge better by the flight of the arrow. If the arrow wags, or

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wabbles from side to side, it is caused by the failure to draw the string back truly. The reason is obvious, for if the string is drawn backward while in a state of tension, and brought half an inch to the left of a line with the center of the bow, and thus loosed, it will rush toward the center changing its course as it moves and throw the nock of the arrow to the right, and of course the head of the arrow to the left. This will give the arrow a wagging motion horizontally in its flight, and wholly spoil the accuracy of the shot. This defect of drawing is generally found to arise from fear of touching the face with the string; for the string is almost always drawn to the *right* of the true line, rarely to the *left*. The archer should always draw close in to the side of the chin

A slight impediment will sufficiently retard the string so as to ruin the flight of an arrow at long range. A touch of the hat rim, the flowing end of an necktie, or side-whiskers upon the right cheek, may prevent any excellent scoring. The archer should either wear a shooting cap, or have the brim of the hat pinned up

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closely on the right side. In drawing and loosing the archer should endeavor to so perfect himself that each would be done automatically, and so easily that he would have really no thought as to how either was being done, his whole attention being fixed upon the target and the direction and elevation being given to the arrow.

In order to get a perfectly smooth loose it is necessary that the finger gloves should fit very closely and be made of pliable leather, which will yield to the bending of the finger. The ends of the fingers should *slightly* protrude, yet not enough to allow the string to hurt them. The archer should not permit the finger gloves to become hard and dry, but should touch them with grease about once in every thirty shots. They should not be saturated with the grease, but should be kept in a smooth, pliable condition. The loose being the delicate part of archery, a very small defect in the archer's gear will materially affect the smoothness of the loose. If the string be not round, the wrapping imperfectly done, the nock fitting too tightly or too loosely on the string, the finger gloves too loose,

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the leather too hard, or the string awry in either nock of the bow, the loosing will be poor, and the results unreliable. No archer can hope to accomplish good scoring at long range who does not carefully look to all these minor things.

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CHAPTER IV.

On Keeping a Line.

IF THE ARCHER has carefully practiced and become habituated to the method of "standing," "nocking," "drawing," "aiming" and "loosing" particularly described in the foregoing chapter, he will have mastered a good part of the difficulty connected with "keeping a line," by which is meant shooting in the vertical plane of the gold of the target, or, in common parlance, "making a good line shot."

Nothing connected with archery is more beautiful to see than the straight flight of an arrow, and on the other hand one cannot think of anything quite so disagreeable to the bowman as a shaft which sails for the right or left of the target.

The York Round exacts the most perfect line shooting. From sixty to one hundred yards—that is: 60, 80 and 100 yards, the three

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ranges of the York Round—may be taken as the limit of long range shooting, and it is easy to see how at such ranges keeping a line will affect the archers score. The target is 48 inches in diameter and is divided into five concentric circles, practically equal in width of space they occupy. If you keep the flight of your arrow in the exact vertical plane of the gold, you will hit the gold, if you keep a length. If you shoot a little too high or a little too low you will hit in the red—a little higher or lower still will be in the black and so on But if you have not kept a line, you may miss entirely, or barely make the outer white, on an exact level it may be with the gold, showing that if you had kept a line you would have scored 9 instead of 1. When it is understood that a movement of one inch with the bow-hand or the slightest irregularity of loosing the string at the point of shooting, will toss the arrow away to one side or the other of the target, the importance of perfect steadiness and smoothness of holding and loosing becomes apparent as regards "the keeping of a line."

But the manner of drawing has much to do

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with the flight of the arrow. If you twist the string awry, even in the smallest degree, or hold your bow so nearly vertical that the shaft falls away to the left, or hold your right elbow so that the forearm makes an angle with the arrow, or keep your right hand too far away from your face, you cannot shoot in the line of your aim.

The following is our method of training for line shooting and we are satisfied after the most exhaustive practical test that it cannot be improved: Take position, hold the bow, nock the string and draw as directed in the preceding chapter; but, before drawing, level the arrow, properly nocked and ready for shooting, directly at the lower edge of the target, in a line with the center of the gold. Then raise the bow-hand vertically till you think you have the proper elevation; draw smoothly and steadily to the pile of your arrow, your right hand passing just below the right side of the chin, and loose smartly and smoothly. Now if you have leaned the upper limb of your bow somewhat to the right in drawing, and have kept the vertical line in raising your bow, your shaft will fly directly

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to, or over, or under the gold in accordance with the elevation given to the bow hand.

If the arrow should fail to fly in line, look carefully to all the points of shooting and you will soon detect the reason. Most likely you will shoot to the left of the line at first. This is caused by two faults. First: Holding the bow too nearly vertical, which gives the arrow a tendency to fall away from the upper limb. Secondly: Drawing the string awry by keeping the right hand too far out from the right side of the chin. If your arrow flies smoothly, but off to the right of the line, it is, probably, the result of *pushing* in that direction with your bow-hand, a thing to be strictly avoided.

Hesitation at the point of loosing will destroy the alignment of a shot, so will any wavering from fixedness in the direction of the eyes. On the other hand great rapidity of movement should be avoided unless it be natural to the archer; a rare thing, indeed. The proper time of drawing, aiming and loosing all together is from one and one-half seconds to two seconds, according to the archer. Bring the string back

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with a steady, even sweep—keep your eyes so fixed that you see the entire arrow, and at the same time look squarely at the point of elevation or aim. In raising the bow-hand see that the point of the arrow passes vertically across the gold.

To execute a perfect line shot it is also necessary to draw the arrow full up to the pile at every trial. Your bow will not work well unless you give it the utmost draw that the length of the arrow will permit.

Your arrows for the York Round must be perfect in make and all of one length, weight and pattern of stele, pile and feathers, else you will fail to keep the line.

Avoid fast walking, running or any other violent exercise just before shooting, as nothing so distracts the line of a shot as excited nerves.

A bow too heavy for the archer causes his left arm to quiver and waver in drawing. If you are not exceedingly well trained and very strong in the shoulders and arms, do not use, in the York Round, a bow drawing more than 49 pounds. Your most perfect shots will be made

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with a bow which you can draw with almost careless ease. Fifty-two pounds of actual draw is as heavy as the writers of this book ever use at the York Round. Length of arrow 28 inches, weight mark 4. 9. and 4. 6.

For rules and directions for line practice with a view to shooting game see, "WITCHERY OF ARCHERY."

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CHAPTER V.

How to Keep a Length.

KEEPING A LENGTH in archery nomenclature, is shooting the same distance with each arrow. If you shoot in line as directed in the preceding chapter, and keep a length as this one bids you, you will have the pleasure of seeing all your arrows find the central part of the target, a thing very difficult of accomplishment over the long ranges of the York Round.

Keeping a length comes of drawing always the same, elevating always the same, standing always the same, aligning your arrow always the same, holding your bow always the same, and nocking and loosing always the same. In fact, this keeping a length is the crowning achievement of the master bowman. To attain to reasonable proficiency in its execution requires long and painstaking practice. Indeed the York Round demands careful training at

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every point ; but nowhere are alert intelligence and exhaustless patience so absolutely indispensible. Every, even the minutest operation of shooting must be perfectly performed and uniformly repeated at each shot. If one finger in the slightest possible way slips on the string —if the nock of the arrow is a little awry—if the merest fraction of an inch varies the aim—if the bow is held a little loosely—if you lack the eighth of an inch of drawing the full length of arrow—if you draw just a little lower or higher at the chin—if you hold a quarter of a second longer or shorter in aiming—in a word, if in *anything* one shot is performed differently from another, the result will be a noticeable, if not a disastrous variance in keeping the length.

Any one who has hunted game with the long-bow and arrows as long and has attained to such proficiency in keeping a length with hunting shafts as have the authors of this book, will see difficulties in target-shooting not dreamed of by the novice. It may seem marvelous, nevertheless it can be practically demonstrated, that a painted and graduated target, 4 feet in

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diameter, the center of which is placed 4 feet above the ground, is as hard to hit at 100 yards with an arrow as a bird the size of a wild turkey standing on the ground at the same distance. In fact, the larger your target the more difficult it is to *aim fixedly at its central part.* The painted circles of a target, too, have the effect to confuse the eyes and tend to prevent concentration of sight. This peculiarity will be curiously demonstrated when you first attempt the York Round. Your shooting will be proportionally better at the longer ranges, especially in keeping the line. Now keeping the line has much to do with keeping a length, wherefore the York Round should always be practiced at targets and not at staves, because after having learned to keep a line and a length by staff shooting, you will be confused and will blunder when you go to the targets.

One of the most difficult elements of keeping a length is to so accustom the eye to the necessary elevation, at each of the three ranges, that, in shooting, the bow-hand and the eye mechanically operate together in fixing the point quickly

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and surely. To make this more easy shoot the same bow at all distances. It is true that a few of the best shots of England shoot a light bow at 60 and 80 yards and a heavy one at 100 yards; but we condemn this practice as injurious and out of all form, unless it were possible to have three bows so graduated in power as that in shooting each at its respective range the elevation would be uniform. The only safe theory as well as the only perfect practice for keeping a length is to use precisely the same weapons at all the ranges; the only change being in the elevation of the bow-hand.

See to your arrow feathers very carefully before shooting a match and after each shot; for the least damage to a vane will seriously endanger both line and length. It is quite often the case that the best arrow-makers, with all their care, suffer a slight difference to be made in the width of the feathers to their shafts. Of course, the arrows having the broader vanes will fall shorter than those having the narrower ones. It requires very close observation and nice practice to detect defects of this kind; but the York

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Round demands just this sort of observation and experiment, especially on the two longer ranges, where almost undiscoverable errors work such sad havoc with promising scores.

The points of arrows, too, have a decided effect on keeping a length Arrows must be made pointed so that they will surely enter the target; but it is demonstrable that an arrow with a pointless head will fly further than a pointed one. Hence, if one of your arrows gets the point even slightly dented or flattened, it will prevent the keeping of a length.

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CHAPTER VI.

The Effect of Weather upon Shooting at the York Round.

THE ARCHER can never hope to be more than a bungler in the York Round if he makes no note of the weather, and if he really thinks of taking a high place at the Grand National meetings, he must observe every pulse of the wind even to the slightest breath. Not only this, he must also learn the effect of cloudy, partially cloudy, clear, damp or misty weather, and he must experiment with the sun at his back, his side and in his face, in order to become accustomed to every shade and sheen of the weather.

After you have learned to make a perfect line shot in perfectly still weather, pick a windy day and so arrange your targets that the current of the wind shall be at right angles to the range, that is, blowing straight across it. This done commence shooting as usual and you will see your arrows, instead of keeping their direct

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course as they did in still weather, drifting with the wind far to one side of the center line of aim. You will discover at once that you have a new obstacle to overcome. You must in taking aim, allow for the drifting of your arrow, a very delicate operation, indeed, requiring the nicest discrimination and faultless execution. You cannot be taught to do this by any written or oral directions. You must experiment with patient care. Keep your eyes open. Keep constantly in mind all the philosophy of shooting and be ready to overcome every little exigency as it arises.

An instance in actual practice may be worth relating here. A number of gentlemen were shooting the longest range of the York Round when suddenly their arrows began to fly badly on account of the feather end wagging in mid-air. Every shot that hit the target was on a certain side of the center line, excepting the arrows of one shooter who continued to keep his usual score. After the match was over the last-named archer explained his success. "I saw," said he, "the leaves on the old apple tree near the

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middle of the range stirring very rapidly, and I at once knew that a slender current of wind—a cats paw—was moving there, whilst it was calm as stillness itself where we were standing. I could note exactly the point where our arrows entered that current So I said nothing, but quietly made due allowance for the drift, and won the match." The explanation was a valuable lesson to all who heard it.

When you first begin to allow for drift, you are almost sure to overdo it. Unless the wind is very high the change of the position of the bow-hand is barely noticeable, but it is, nevertheless, essential, and cannot be neglected. Suppose the wind is going across the range from right to left with sufficient force to drift your arrow two feet in its 100 yards flight. You may then aim at the right hand edge of the target. But a wind, like Virgil's woman, is

"*Varium et mutabile semper*,"

and cannot be expected to blow steadily for five consecutive minutes, wherefore you must learn to detect its every variation of strength and direction, and to allow for it with something like

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precision. Nothing is more exasperating than after relying upon a certain force of wind, to see your arrow keep a dead line exactly to the spot from which you expected it to drift into the target, all on account of a sudden lull: Nothing, we say is more exasperating unless it be a flurry of wind springing against the shaft, after it has left the string, and bearing it wide of the mark.

It is a very good thing for the beginner at the York Round to set up a tall staff with a streamer on it somewhere to one side of mid range, so that he may judge of the force and direction of the wind.

But it is quite as necessary to allow for the retardation of the arrow when the wind blows up the range, and for its acceleration when the wind is down the range, as to allow for its drifting with the side wind.

When the wind is up the range, *i. e.*, blowing towards the shooter from the direction of the target, the elevation of the bow-hand must be greater than in a calm or a side-wind. So when the wind is down the range, *i. e.*, blowing from

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the archer towards the target, the elevation of the bow-hand must be lessened.

There will be an apparent difference in the elevation necessary, especially at the 100 yards range, on a clear and on a cloudy day; the elevation being apparently less on a cloudy day.

If the weather is damp, your bow, its string and your arrows will be more sluggish than in perfectly dry weather, consequently your aim should be higher. Whenever from any cause, your targets are taken to a new range, where a back-ground, strange to your eyes is presented, you will observe an effect upon your shooting. So, on a familiar range, where the back-ground happens to be the sky, variegated clouds or shadowy wreaths of fog may distract your eye.

But the most refractory feature of weather is that peculiar wavering sheen which dances in the air on hot midsummer days, "demoralizing" one's sight and effectually crippling his score. It is best to not shoot in such weather.

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CHAPTER VII.

Some Remarks on the Trajectory and the Rotary Motion of Arrows.

THE YORK ROUND demands of the archer close attention to the rules governing the flight of his arrows.

The trajectory of an arrow is low or high according to the power of the bow and the perfection of the bowman's loose, and is a parabola similar to the line of a rifle-ball's flight

A low trajectory is very desirable in shooting at long range. To secure this, many fine archers ruin their scores by using a bow too strong for their muscles.

The best way to secure a low flight is to perfect yourself in loosing, and to use a bow well suited to your strength.

Mr. H. A. Ford, the celebrated English archer, whose score at the Double York Round of 1251 has never been equaled, is said to have ruined the tendons of his drawing fingers by the

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use of a 57 pound bow, though he was a very tall and exceedingly powerful man.

The use of light arrows with very narrow feathers will lower the trajectory; but to go to the extreme in this direction will put you in danger of breaking your shafts, and cause you great trouble in windy weather from irregular drifting. A 4. 6. arrow with a 48 pound bow, and a 4. 9. arrow with a 50 to 54 pound bow, will be found about right.

Nothing affects the trajectory more than to hold the bow full drawn too long before loosing. A 60 pound bow held two seconds at a full draw, will not cast as low an arrow with the same elevation as a 49 pound bow loosed instantly and smoothly.

It might seem that in order to give an arrow the rotary motion of a rifle-ball it would be necessary to put the feathers on spirally. We have seen this done, but it is a mistake. Arrows made after the ordinary English style, with feathers practically parallel to the stele of the arrow, we have found to have a very rapid rotary motion. This happened to be demonstrated in

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our presence as follows: An arrow was shot into a target distant 100 yards, and chanced to touch a long iron spike which projected from the rude target easel we were using. This spike had a very sharp corner which cut a groove in the stele of the arrow as it passed, which groove, upon examination, was found to run spirally around the shaft three times in six inches, or once in two inches. Now, an arrow shot with the full force of a 52 pound bow will fly 100 yards in about two seconds. There are 3600 inches in 100 yards. Therefore, if an arrow flies 3600 inches in two seconds and turns once in two inches, it will turn 900 times in a second, a pretty rapid rotation. Of course, it starts with a much greater velocity. The average would probably be at least 1200 revolutions in a second.

If the pile of an arrow is too tapering, the trajectory will be high; if almost parallel-sided, the trajectory will be low. Any injury to the feather is likely to make the trajectory high. If the point of an arrow gets truncated by striking a stone or other hard substance, its trajectory

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will probably be lower than before, but it will rebound from the target. Nothing is better settled than that a truncated missile will fly further than a sharp or pointed one. Therefore, an arrow should have a straight, parallel-sided pile, with a very steep slant to the point, if you wish a low trajectory.

For directions in regard to repairing arrows when injured, and for making hunting bows and arrows, see ' WITCHERY OF ARCHERY."

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CHAPTER VIII.

How to Train in the York Round.

SHOOTING at long range is harder work than shooting at *point blanc* range; therefore, when you begin to train yourself in the York Round you must be careful not to exercise too much, or you may permanently injure some of your muscles or tendons, and thereby end your hopes of ever succeeding as an archer.

Two dozen arrows will be found enough to shoot in a day at first, and it is doubtful if four dozen daily can be called a safe number for most archers. To overwork the muscles tends to destroy them, whilst moderate regular exercise builds them up. The best, or at least the safest practice, is to shoot on alternate days, beginning with a dozen or two arrows, and increasing the number very slowly through the season. The writers of this book have shot three hundred arrows each in a day, but such exercise, even to the best trained athlete, is exceedingly danger-

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ous, and is nearly sure to be followed by a week or two of very poor shooting.

Whenever you feel sore after shooting be sure you have been at your exercise too long for any benefit to come of it. Quit before you get tired; but while you are shooting never suffer yourself to do even one thing carelessly. Take all possible pains with every shot. Stand exactly in position, nock carefully, draw carefully, hold carefully, loose carefully with each arrow. Observe closely everything connected with the flight, trajectory and drift of each shot. Try to cure every noticeable fault as soon as you discover it. Above all things take care not to lose your temper. Keep cool under all circumstances, no matter how vexatious. An excited archer never shoots into the mark.

Try all the time to fasten in your memory three things particularly: The necessary elevation of your bow-arm, the exact length of draw and the right method of loosing. When your arrow hits the target try to repeat the method by which you have secured such a result. It is only by repeated trials that you can succeed.

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Archery as an art is more like music than anything else. At first you blunder horridly with the keys of a piano; but at length you can dash through a waltz at a gallop. So when you begin long range shooting you may not score 150 at the Double York Round; but the time soon comes when you easily count off 500 or 600. Intelligent training is everything. The race is to the diligent. Patience and intelligent labor form the royal road to success.

When you begin practicing in the York Round keep a book in which you record every score, poor or good, that you make. It is a very pleasant thing to look through such a volume at the end of the season. Record all the aspects of the weather each day, so that your book will show under what circumstances each score was made.

Never think of using battered, frayed, or in any way injured arrows for long-range exercise. You cannot become an archer by parsimony. Buy new arrows and the very best whenever you need them. However, with due care, a dozen first-class arrows will last a long while

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through very hard shooting. Take the strictest care of your bow; for a change of bows brings a temporary falling off in the archer's score. You must train a few days with a new bow before shooting a match with it, or you will be nearly sure to fall off fifty points or more in the York Round.

Use a shooting cap. If you practice in a broad brimmed hat you will occasionally lose a hit by the string touching the brim.

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CHAPTER IX.

On the Choice of Weapons for Shooting in the York Round.

IF you were going to shoot in a match at glass balls, pigeons or rooks, you would be sure to procure the very best double-barreled breach-loader and the finest brand of powder, and the exact size of shot suited to the purpose. You would load your shells with the greatest care, and see that not a speck of rust marred the choked bores of your barrels.

The same care is required in the matter of archery. Even more. A rifle does not require nicer discernment in selecting it than does a bow for the York Round.

Italian and Spanish yew make the best self bows. No wood can compare with yew for perfect elasticity and evenness of spring. But yew bows are very costly. A good one is valued at $100, and extra fine ones sell for as high as $250 each.

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Backed bows, that is, bows made of two pieces glued together are very quick and springy, but have a heavier recoil than the self yew bows.

Self lancewood or lemonwood, if of the best perfectly seasoned wood, makes a fine and reasonably cheap bow; the best, perhaps, for ordinary use.

Snakewood backed with hickory, and lancewood backed with hickory, are beautiful and excellent weapons, sold by dealers at from eight to twenty dollars, according to grade.

Self snakewood bows are good, but their recoil is fearfully wearing on the left hand and arm of the archer.

Beefwood backed with finest lancewood, makes a really smooth shooting and reliable weapon though inclined to follow the string.

Except for the hard training of those who on account of their much shooting, may be termed professional archers, the backed bows and self lancewood bows above mentioned are quite as good as any, besides being very cheap and durable, if well made.

Bows are not to be chosen simply by the kind

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of wood they are made of. Some lemonwood or lancewood self bows are better than some yew bows.

The qualities most desirable in a bow are, first: Perfect *elasticity*, which means that it shall go back to its first shape when unstrung. Secondly: *standing* power, that is, that it shall not grow weaker with shooting. Thirdly: *sweetness* of draw and recoil, which means that it shall have no harshness or stubbornness in its bending, but shall curve evenly with smooth action in drawing, and recoil without any jar or jump after the loose.

For the York Round, arrows must be absolutely perfect. The stele must be straight, even and smooth, tapering slightly from the feather to the nock. The pile must be parallel-sided, perfectly round and ground to a short point. Snakewood makes the best footing. The shape of the feathers of English arrows is either triangular or curved. Peacock feathers are best.

We pronounce the method of feathering, invented by Maurice Thompson, Esq., the best possible for arrows to be used in the York

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Round. These feathers are cut to a certain length and breadth, corresponding to the weight of the arrow, and the outline is a parabolic curve. These arrows are now manufactured to weight, according to Mr. Thompson's formula, by E. I. Horsman, Nos. 80 and 82 William Street, corner of Maiden Lane, New York.

Arrows should be made of the very hardest and best seasoned pine. Their weight should correspond to that of the bow; but nothing heavier than 4. 9. should be used with any bow. If made of very stiff deal we prefer 4. 6. for the York Round; but the wood of the stele must be extra stiff indeed.

The "characteristic," so to speak, which best determines an arrow's value is a perfectly smooth, even flight, without any vertical or lateral shaking. The feathered end should follow the point so smoothly that, when shooting *point-blanc*, you can see nothing but the feather during the arrow's flight.

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CHAPTER X.

Archery Terms used in the York Round.

Allowance.—The distance of change in aim to compensate for the drifting of an arrow.

Bow-arm.—The left arm.

Bow-hand.—The left hand.

Compass.—To keep compass is to preserve the proper elevation of the arrow in shooting.

Cut the gold.—An arrow is said to cut the gold when in falling short it apparently drops across the gold.

Elevation.—The height of the bow-hand in aiming.

End.—The number of arrows shot before walking to the opposite target. By the rules of the York Round three arrows to each archer constitute an end.

Fast.—A command to stop. Used when some one is about to pass between the archer and the target.

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Gone.—An arrow is said to be gone when it will fly beyond the target.

He! He!—The time-honored word of call used by archers in hailing each other from a distance.

Hit.—The striking of the target with an arrow.

Home.—An arrow is home when drawn to the pile.

Horn Spoon.—Hitting the outer edge of the target, beyond the white.

Keeping a Length.—Shooting exactly the right distance or length.

Length.—The distance from the archer to the target he is to shoot at.

Limb.—The upper and lower limbs of a bow are the parts above and below the handle.

Nock.—The notch of a bow or arrow.

Nocking-point.—A mark on the string where the arrow should always be placed in shooting.

Over-bowed.—An archer is over-bowed when he tries to shoot too strong a bow.

Pair.—Three arrows are termed a pair.

Pile.—The head of an arrow.

Self-bow.—A bow made of one piece of wood.

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Snake.—An arrow snakes when it slips under the grass.

Stele.—The wooden part of an arrow, sometimes including the horn nock.

Tab.—A flat piece of leather used in place of finger tips or shooting glove.

Tips.—Stalls of leather for the three first fingers of the right hand.

Under-bowed.—Having too weak a bow.

Wag.—An arrow is said to wag when it vibrates in the air.

Weight.—A bow's weight is marked by the number of pounds in power required to draw an arrow on it to the pile.

Wide.—An arrow is wide when it flies to one side or the other of the target.

Wind.—The wind is *up* when it blows from the target to the shooter. Blowing the reverse it is *down.* When it blows at right angles to the range it is a *side-wind.* A wind is called *quartering* when it makes an acute angle with the range.

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FINE ARCHERY,

MANUFACTURED BY

E. H. Horsman,

80 & 82 WILLIAM ST.

Cor. Maiden Lane, N. Y.

MANUFACTORY AT VALLEY FALLS, R. I.

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Mr. Will H. Thompson, writes as follows:

"The best bows I have ever seen are now being made by Mr. E. I. Horsman, of New York. A month ago I would not have believed it possible for us to get an American bow which would at all compare with the better class of English work, but having given **Horsman's make** a thorough test, I am free to say, his lemon and lance wood bows are the finest specimens of such bows I have yet seen. **His rose-wood bows are simply splendid**; but the snakewood! Now here comes the rub! How shall I tell just what I think of them? **I don't want to say one word which I shall ever have cause to modify**; and I shall only say in the simplest and most direct language, that they are the **finest specimens** of woodwork **I have ever seen.** I have searched closely for a defect, but none is to be found.

The bows are perfect. They are utterly without a blemish from tip to tip. I have owned several fine snakewoods, but never so perfect a bow before. Need I say **they shoot as well as they look?**

My 48 pound snakewood of **Horsman's make** is the quickest bow I have ever seen. It sends an arrow with a flatter trajectory than my old 70 pound lance and hickory. I could not have believed it if I had not seen it.

I consider the **fine club arrow** made by **Horsman** as perfectly fashioned as ever came from Fletcher's hand.

I feel sure it is the **best arrow in the world.** They will be the only arrow used in America by the time this season is over.

I intend to shoot them only at all matches during the summer, and give them a chance at the championship medal at the tournament in Chicago next August."

Crawfordsville, Ind., March 17, 1879.

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CRAWFORDSVILLE, Ind , May 10th, 1879.

Mr. E. I. HORSMAN,

My Dear Sir :

I have given your Bows the *hardest and most merciless* test imaginable ; they stand better than any English Bows of the same class, and have all the good points desirable.

Your Snakewood, backed with Lance, and your Beefwood, backed with Lance, are very fine and springy, and I can say they stand any amount of hard shooting. I *can't* break them. They just ***will not break.*** I can recommend your Bows as more durable, and of better finish than English Bows of the same material.

Your Snakewood, backed, and Beefwood, backed, are ***better*** than the same of English make. * * * * * * *

Very sincerely,

Yours,

MAURICE THOMPSON.

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To the Archers of America.

Having carefully and thoroughly tested "**Horsman's**" Beefwood backed with Lance, Beefwood backed with Hickory, Lancewood backed with Hickory, Snakewood, Lemonwood, Self Lance and other Bows of his make, I take great pleasure in giving them a hearty endorsement, and unhesitatingly pronounce them **superior** to any Bows of English manufacture of the same woods.

He has certainly been very successful in the workmanship of his Bows, as their even, true bend evinces, and he has exhibited the spirit of the thorough bowyer in the selection of the timber from which his Bows are made.

I unqualifiedly recommend them to the Archers of this country as most durable and excellent in every respect.

Very respectfully,

Henry C. Carver,

Corresp'dg Sec'y National Archery Association.

Chicago, May 26th, 1879.

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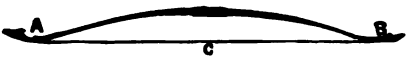
Ladies' Best Back Bows,



2 pieces, with best Flemish Strings.

					Each.
No. 34 H	5 feet,	Lance and Hickory,	20 to 30 lbs...		$5 00
" 34 A	"	" " Amaranth,	"	...	6 00
" 34 B	"	" " Beefwood,	"	...	6 00
" 34 R	"	" " Rosewood,	"	...	6 00
" 34 P	"	" " Pheasant,	"	...	7 00

Ladies' Best Back Bows,

2 pieces, with best Flemish Strings.

No. 35 H	5½ feet,	Lance and Hickory,	22 to 35 lbs.		$6 00
" 35 A	"	" " Amaranth,	"	.	7 00
" 35 B	"	" " Beefwood,	"	.	7 00
" 35 R	"	" " Rosewood,	"	.	7 00
" 35 P	"	" " Pheasant,	"	.	8 00

Gents' Best Back Bows,

2 pieces, with best Flemish Strings.

No. 36 H	6 feet,	Lance and Hickory,	30 to 60 lbs...		$7 00
" 36 A	"	" " Amaranth,	"	...	8 00
" 36 B	"	" " Beefwood,	"	...	8 00
" 36 R	"	" " Rosewood,	"	..	8 00
" 36 P	"	" " Pheasant,	"	...	9 00

Note.—If you want a good Club Bow, for *hard usage*, buy
Nos. 34, 35 or 36 H, Hickory and Lance, or
" 34, 35 or 36 B, Beefwood, backed with Lance.

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Snakewood and Lancewood Bows,

2 pieces, with best Flemish Strings.

			Each.
No. 44	5 feet,	20 to 30 pounds.....	$ 7 50
No. 45	5½ "	24 to 40 "	9 00
No. 46	6 "	30 to 60 "	10 50

Self Snakewood Bows,

Handsomely French Polished, with best Flemish Strings, whipped.

No. 47	5 feet,	20 to 30 pounds.....	$ 7 50
No. 48	5½ "	24 to 40 "	9 00
No. 49	6 "	30 to 60 "	10 50

PRIZE BOWS—Gems.

EXTRA CHOICE.

Snakewood, backed with Lemonwood.

Double Extra Strings. Each Bow in a green baize Bag.

No. 50	Ladies, 5 feet,	20 to 30 pounds.....	$10 50
No. 51	Ladies, 5½ "	24 to 40 "	12 00
No. 52	Gents, 6 "	30 to 60 "	15 00

Self Snakewood—Gems.

Double Extra Strings. Each Bow in a green baize Bag.

No. 50 S	Ladies, 5 feet,	20 to 30 pounds.....	$10 50
No. 51 S	" 5½ "	24 to 40 "	12 00
No. 52 S	" 6 "	30 to 60 "	15 00

Horsman's "GEM" Lemonwood Bows,

FOR CLUB USE. EXTRA CHOICE.

Each Bow in a green baize Bag.

A	5 feet,	20 to 30 pounds	$5 00
B	5½ "	22 to 36 "	5 50
C	5½ "	24 to 40 "	6 00
D	6 "	30 to 60 "	7 00

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Horsman's "GEM" Self Lancewood Bows,

FOR CLUB USE. EXTRA CHOICE.

Each Bow in a green baizo Bag.

			Each.
E	5 feet,	20 to 30 pounds	$4 00
F	5¼ "	22 to 36 "	4 50
G	5½ "	24 to 40 "	5 00
H	6 "	30 to 60 "	6 00

PRIZE CASES,

Containing from *two to six Prize Bows*, and *one or two dozen Prize Arrows, made to order*. Price $50 to $250 each.

Lemonwood Bows,

Made to Weight. French Polished, with best Flemish Strings, whipped.

				Each.
No. 29	Lemonwood,	5 ft., made to wgt,	20 to 30 lbs.	$4 25
" 29½	"	5¼ ft., "	22 to 36 lbs.	4 50
" 30	"	5½ ft., "	24 to 40 lbs.	4 75
" 31	"	6 ft., "	30 to 60 lbs.	5 00

Extra Quality Self Lancewood Bows,

Made to Weight. French Polished, with best Flemish Strings, whipped, suitable for Club use.

No. 25	5 feet,	made to weight,	20 to 30 pounds	$3 00
" 26	5¼ "	"	22 to 36 "	3 50
" 27	5½ "	"	24 to 40 "	3 75
" 28	6 "	"	30 to 60 "	4 50

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Fine Quality Lancewood Bows,

Horn Tipped, Plush Handles.

		Each.
No. 19	Fine Lancewood Bows, Plush Handles, Stained and Polished, Horn Tipped, Fine Strings, 4½ feet	$1 50
" 20	Fine Lancewood Bows, Plush Handles Stained and Polished, Horn Tipped, Fine Strings, 5 feet	2 00
" 21	Fine Lancewood Bows, Plush Handles, Stained and Polished, Horn Tipped, Fine Strings, 5½ feet	2 25
" 22	Fine Lancewood Bows, Plush Handles, Stained and Polished, Horn Tipped, Fine Strings, 6 feet	2 50

Lancewood Bows,

Horn Tipped, with Velvet Handles.

No. 14	Horn Tipped, with Velvet Handles,			4½ ft....	$1 25
" 15	"	"	"	5 ft....	1 50
" 16	"	"	"	5½ ft....	2 00
" 17	"	"	"	6 ft....	2 25

Lancewood Bows.

No. 9	Polished Lancewood,			5 feet	$0 75
" 10	"	"	5½	"	1 25
" 11	"	"	6	"	1 50

Bow Strings.

No. 1	Made from Japanese Flax, for 4 to 6 ft. Bows	10c
No. 1½	Flemish Strings, plain, for 4½ to 6 ft. Bows	15c
No. 2	" " made end, for 4½ to 6 ft. Bows.	25c
No. 3	" " whipped in centre, for 5 to 6 ft. Bows	35c
No. 4	Double extra fine Flemish Strings, best white	50c
No. 4a	*Club String*, *double end*, whipped centre, for 5 to 6 ft. Bows, VERY STRONG	50c

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ARROWS.

Crawfordsville, Ind., May 10th, 1879.

Mr. E. I. Horsman—My Dear Sir:

I hereby grant you *exclusive right* to manufacture the MAURICE THOMPSON ARROW. My brother Will and I have tested them in every way. They give a lower trajectory and a more rapid rotary motion, and consequently are less affected by wind than any other kind of arrow.

Very sincerely, yours.

MAURICE THOMPSON.

				Gents, 28 in.	Ladies, 25 in.
Maurice Thompson Club Arrow, footed with Snakewood,				$12 00 per doz.	$10 00 per doz.
No.	22.	25	inch, Best footed, with parallel points, painted and gilt		Per Doz. $8 50
"	23.	28	ditto		9 00
"	19.	22	inch Old Deal, painted and gilt		5 50
"	20.	25	" " " " "		6 00
"	21.	28	" " " " "		6 75
"	17.	25	" full nocked, polished and painted		4 00
"	18.	28	" " " "		4 50
"	15.	25	" ¾ nocked, polished and painted		3 00
"	16.	28	" ¾ " " "		3 50
"	13.	25	" half " " "		2 25
"	14.	28	" " " " "		2 50
"	10.	21	" " " "		1 50
"	11.	24	" " " "		1 75
"	12.	28	" " " "		2 00
"	7.	21	" Polis'd, with sharp points, for practice		1 25
"	8.	24	" " " " "		1 50
"	9.	28	" " " " "		1 75
"	6.	24	" Plain, 3 feathers, sharp points		1 25
"	5.	21	" "		1 00

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EQUIPMENTS.

Gloves.	Each.
ve, Plain Green.....$	63
Blocked Tips....	75
Lace "	1 00
" Spring back	1 25
Very Fine, Laced	1 50
ve, Brown.....	75
Laced Tips.....	1 00
Gent's, Improved Tips, set of 3.....	75

Quiver Belts.

No. 1. Ladies Quiver Belts, Green..$	1 75
" 2. Ladies Quiver Belts, with Slides.....	2 00
" 3. Ladies Quiver Belts, Stitched with Slides....	2 50
" 4. Gents Quiver Belts, Brown.	2 25
" 5. Gents Quiver Belts, very fine, with Slides....	3 00

Arm Guards.

Arm Guards, Green.....$	1 25
" " Stitched....	1 50
" " Silk Lined tched.....	1 75
rm Guards, B own.....	1 00
" " Lined and d.....	1 25
rm Guards, Best, Lined tched.....	1 50

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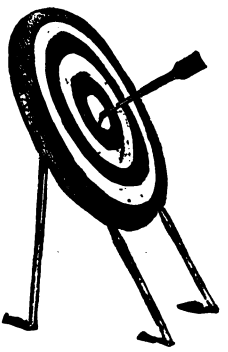

Straw Targets, with Canvas Facings.

(PRICES COMPLETE.)

	Each.
12 inches diameter	$1 00
15 " "	1 25
18 " "	1 75
21 " "	2 00
24 " "	2 50
27 " "	3 00
30 " "	3 50
36 " "	4 00
42 " "	5 00
48 inch Club Target	6 00

Target Facings, Separate.

12 inches diameter	25c
15 " "	30c
18 " "	40c
21 " "	50c
24 " "	62c
27 " "	75c
30 " "	87c
36 " "	$1 00
42 " "	1 25
48 " "	1 50

Portable Iron Target Stands.

No. 1. 4 feet high	$2 00
" 2. 4½ "	2 25
" 3. 5 "	2 50
" 4. 5½ feet, extra	2 75
" 5. 6 " "	3 00
" 6. 6½ " "	3 50

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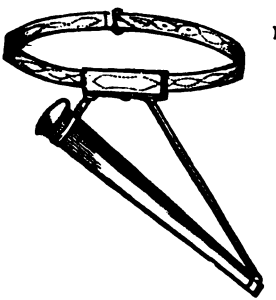
ARCHERY EQUIPMENTS.

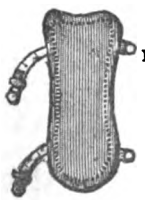
Gloves.

		Each.
No. 1	Lady's Glove. Plain Green	$ 63
" 2	" " Blocked Tips	75
" 3	" " Lace "	1 00
" 4	" " " Spring back	1 25
" 5	" " Very Fine, Laced Tips	1 50
No. 6	Gent's Glove, Brown	75
" 7	" " Laced Tips	1 00
" 8	Lady's or Gent's, Improved Knuckle Tips, set of 3	75



Quiver Belts.

No. 1.	Ladies Quiver Belts, Green	$1 75
" 2.	Ladies Quiver Belts, with Slides	2 00
" 3.	Ladies Quiver Belts, Stitched with Slides	2 50
" 4.	Gents Quiver Belts, Brown.	2 25
" 5.	Gents Quiver Belts, very fine, with Slides	3 00



Arm Guards.

No. 1.	Ladies' Arm Guards, Green	$1 25
" 2.	" " " Stitched	1 50
" 3.	" " " Silk Lined and Stitched	1 75
" 4.	Gent's Arm Guards, Brown	1 00
" 5.	" " " Lined and Stitched	1 25
" 6.	Gent's Arm Guards, Best, Lined and Stitched	1 50

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No. 0.—Children's Set.
Four English Bats, four balls, portable poles, net, boundary pegs, lines, mallets, runners, with book of instructions..... $15 00

No. 1.—Children's Set.
Four English Bats, four balls, portable poles, net 21 feet by 3½ feet, boundary pegs, lines, mallet, runners, with book of rules in box, complete... 18 00

Standard Sets.

No. 2.—Four English Bats, four balls, painted portable poles, strong and superior net 24 feet by 5 feet, boundary pegs, lines and runners, mallet, drill, with book of rules, in strong box, complete 24 00

No. 3.—Four superior finished English Bats, eight balls, 2¼ in. diameter, best stout polished portable poles, strong superior tanned net, 24 feet by 5 feet, boundary pegs, drill, lines and runners, mallet, book of rules, in strong box..... 30 00

No. 4.—Two each Ladies' and Gent's very highly finished Tennis Bats, eight covered balls, 2½ in. diameter, superior polished portable poles, strong superior tanned net, 26 feet by 5 feet, boundary pegs, lines and runners, drill, mallet, with book of rules, in strong box, complete..... 40 00

No. 5.—THE CLUB SET OF LAWN TENNIS. Four very highly finished Gent's Tennis Bats, twelve covered balls, 2½ in. diameter, eight loaded shuttlecocks, superior finished polished portable poles, two stands for same, (adjustable to any part of the ground,) for playing the game of Badminton, also forming court for indoor use, highly finished tanned net, 28 feet by 6 feet, boundary pegs, lines and runners, drill, mallet, with book of rules, in strong, well finished box, complete..... 50 00

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